PUBLIC SAFETY

PSWN PROGRAM

WIRELESS NETWORK

Saving Lives and Property Through Improved Interoperability

Post-Symposium Support Report— Kentucky Public Safety Communications Interoperability Conference

FINAL

January 2003

Kentucky Public Safety Communications
Interoperability Conference

The Public Safety Wireless Network (PSWN) Program and the Kentucky Governor's Office for Technology (GOT) cohosted the Kentucky Public Safety Communications Interoperability Conference in Lexington, Kentucky, on December 4, 2002. The conference brought together 121 local, state, and federal officials to discuss public safety communications and interoperability within the commonwealth (Attachment 1). During this full day of presentations, panel discussions, and audience questions, participants gained a better understanding of public safety communications interoperability within the commonwealth and learned about Kentucky's efforts to improve statewide public safety wireless communications.

Interoperability Efforts

Ms. Aldona Valicenti, Chief Information Officer, GOT, Commonwealth of Kentucky, opened the conference with welcoming remarks. Ms. Valicenti explained that she had been a member of the PSWN Executive Committee for several years and supported the efforts of the PSWN Program to improve public safety communications interoperability. She announced that Governor Patton could not attend because he was briefing the press on Kentucky's budget situation. Ms. Valicenti thanked everyone for attending and described the efforts of the conference. She explained that the conference was organized to help communities, cities, and states understand interoperability issues that had been exacerbated since the events of September 11, 2001. She pointed out that many public safety personnel have difficulty trying to communicate critical information because of inadequate communications equipment and infrastructure.

Acting as Frontline Soldiers

Major General D. Allen Youngman, The Adjutant General, delivered the keynote address on terrorism and homeland security issues. General Youngman began the address by discussing how dramatically the world changed 14 months ago with the events of September 11, 2001. He pointed out that international terrorism brought challenges that were hard to overcome. In particular, domestic terrorism was now an important issue, and there were an increased number of smaller organizations or groups that could potentially attack. At a national level, General Youngman said that the President had set the tone by saying, "...we can never again allow ourselves to become overconfident about the security of our homeland." General Youngman added, "The attack on 9/11 was a wake-up call. In 1993, the same attack took place, but we slept through it." In order for the Nation not to "sleep through" the September 11 attack, he presented a list of ways to strengthen homeland security—

- Enhance first responder programs
- Secure America's borders
- Combat bioterrorism
- Strengthen intelligence sharing
- Improve transportation security
- Support other national defense related initiatives.

General Youngman stressed that homeland security would take a number of years for efforts to be fruitful but that the Nation was off to a strong start. He stated that the local, state, and federal governments, law enforcement, military, volunteer groups, fire, hazardous materials responders, private sector, medical, emergency management, and other public safety agencies needed to pool their resources, and coordinate, integrate, and synchronize with each other. General Youngman stated that the Governor of Kentucky had developed the Governor's Security Working Group to determine Kentucky's ability to prevent terrorist attacks and had assigned General Youngman to lead the group. In addition, the Office for Security Coordination was developed with the following mission components—

- Coordinate a State Homeland Security Strategic Plan

- Coordinate outreach and awareness programs

- Coordinate "antiterrorism" education requirements

- Surface issues and coordinate options

- Help "build bridges" to interagency coordination and cooperation

- Assist in the identification of "dependencies and vulnerabilities" for critical infrastructure protection

- Coordinate the preparedness, reliability, continuity of vital services and critical infrastructure protection

- Coordinate and monitor all federal grants supporting homeland security.

In addition, he pointed out that the GOT was working at the state level to create a strategy so that when the Advisory System level changed, first responders and law enforcement would know what steps to take.

To conclude his presentation, General Youngman stressed that as a nation, we had to work together to fight the war on terrorism. He stated that this was a "…real war, one that we could not opt out of; we have no choice but to deal with it." He added, "The folks in this room are the frontline soldiers. You are making a difference. Thanks for what you do."

At this point in the presentation, the floor was opened for questions and comments. Mr. Mike Weaver, Representative, Kentucky Legislature, expressed concern that the State Legislature had not been informed about the Kentucky interoperability challenges or the assistance of the PSWN Program. His comment supported the need for interoperability assistance in the Commonwealth of Kentucky.

The State of Interoperability in Kentucky

The purpose of this session was to give conference attendees an overview of the PSWN Program and provide an opportunity for open discussion on interoperability challenges in Kentucky.

PSWN Program and Interoperability Presentation

Mr. Robert E. Lee, Jr., PSWN Program Manager, Department of Justice, explained the purpose of the PSWN Program and the program's past efforts to improve interoperability. Mr. Lee discussed that interoperability was the ability to communicate across radio systems on demand and in real time. He added that interoperability was necessary to facilitate rapid and efficient interaction among all public safety organizations and to provide immediate and coordinated assistance during day-to-day missions, task force operations, and mass-casualty incidents. Mr. Lee further emphasized the importance of states sharing information and lessons learned with others.

Mr. Lee stressed that the biggest challenge in interoperability planning was leadership. He said that the goal of leaders should be to educate others on the definition and meaning of "interoperability." He added that the PSWN Program had identified leadership activities, such as the development of a state interoperability executive committee (SIEC), involvement and action by state legislatures, increased funding, and executive-level awareness, that facilitated improved interoperability. He described an SIEC as a state executive-level group that coordinated interoperability efforts and acted as a central point of contact. He indicated that the SIEC should develop and enforce an interoperability plan set forth by the state, as well as review lessons learned from other states. He said that he felt that the PSWN Program could help the Commonwealth of Kentucky with SIEC development. He also mentioned that funding interoperable systems remained a challenge in times of state budget deficits. Mr. Lee suggested that sources of funding were available and potential solutions might include incremental funding. Ms. Valicenti further supported Mr. Lee's comment by saying that funding mechanisms were available and that "the Commonwealth of Kentucky needs to rally support to get the message across and secure funding." In addition, Ms. Valicenti stated that the governor was interested in hearing more about how to meet the interoperability challenge in Kentucky.

At this point, questions were asked. Representative Weaver suggested that the PSWN Program should change its mission statement from "communicate" to "talk" since its mission technically did not include data communications, only voice transmissions. Representative Weaver also asked why Kentucky was not one of the first 11 states to receive interoperability assistance from the PSWN Program. Mr. Lee answered that some of the states already had contact with the PSWN Program and others urgently needed the assistance, so the PSWN Program was able to reach out to them. In addition, the program had provided some states with interoperability assistance through case study efforts.

Mr. Lee discussed that the PSWN Program had also organized several case studies and pilot projects to investigate and develop technical solutions. He mentioned that there were

several PSWN Program materials available at the conference, as well as additional information online at www.pswn.gov.

Kentucky Interoperability Communications Strategy and the State of Communications Interoperability in Kentucky

Ms. Valicenti moderated a panel discussion on communications interoperability challenges. The panel members included Mr. Rodney Murphy, Director of Communications, GOT; Major Robert Miller, Kentucky State Police; Mr. Doug Robinson, Executive Director, Office of Policy and Customer Relations, GOT; Mr. John Patterson, State Administrator, Commercial Mobile Radio Service Emergency Telecommunications Board; and Mr. Mitchell Smith (replacing Lonnie Lawson), Project Manager for the Law Enforcement Technology Grant, Center for Rural Development. The panel members presented various examples of specific interoperability challenges, which were followed by an interactive session with conference attendees.

Mr. Rodney Murphy discussed voice and data interoperability challenges unique to the Commonwealth of Kentucky. He focused most of his discussion on the wireless data pilot projects occurring across the commonwealth. He stated that communicating and accessing data more effectively was the primary goal of each pilot. He mentioned that currently, both private radio pilot projects and "combo" pilot projects were under way. The private radio pilots were being conducted in Taylor, Fayette, Laurel, and Pike counties. The combo pilots were being conducted in Laurel, Pike, Scott, Henderson, and Taylor counties. Mr. Murphy explained that the combo pilots involved commercial wireless and satellite services to access data, with the goal of determining whether sufficient coverage was available in mountainous regions. He stated that although a few pilots would be completed in the Spring 2003, some pilots would continue through June 2003.

Major Miller shared his goal of equipping every public safety vehicle in the commonwealth with mobile data computers. He had been working on this project for four years. For the Kentucky State Police, interoperability would mean data, voice, and intelligence sharing, in real time. Major Miller focused on the idea of enabling all public safety officials (first and second responders) to communicate, not just by voice, but also using data communications. Operationally, systems should deliver statistical information capable of being accessed on a need-to-know basis.

Mr. Robinson explained the architecture and infrastructure for wireless systems in the Commonwealth of Kentucky. He added that convergence of voice and data was needed. Mr. Robinson explained that the lack of adequate systems planning was driven, to some extent, by proprietary technologies and inadequate funding. He said that in order to achieve greater interoperability, the state should take a leadership role and implement business practices that encourage the technology rather than allowing the technology to drive the process.

Mr. Patterson discussed the interoperability challenges for 911 centers. He said that "911 centers are the front end and back room of public safety." He supported his point by stating that all incident data must be entered into records management systems at 911 centers from the time

of incident initiation through the time that the incident is closed, and the data must be available to be queried long after incident closure.

Finally, Mr. Smith discussed standardization of public safety information systems. He explained that he had worked on a project that included 42 county regions and 110 law enforcement agencies, a situation that required a project plan that incorporated standardization. The project included four phases to achieve standardization and interoperability:

1. Provide basic information and equipment to connect on a global scale
2. Deploy laptop computers to 80 percent of fleet (750 laptops in police cars)
3. Test mobile data computing
4. Distribute software components across the state.

Next, questions and comments were accepted from the audience. Ms. Valicenti asked how to implement a strong communications vision if funding was limited. Major Miller responded by acknowledging that funding was always a challenge, but as leaders, everyone needed to pull together to create a work group or a funding subcommittee to seek funding. Mr. Murphy added that the Kentucky Wireless Steering Committee was developed to oversee the implementation of the Kentucky Wireless Strategic Plan. Ms. Valicenti followed up by asking whether the Commonwealth of Kentucky needed more help from its citizens. Mr. Murphy responded that assistance from local agencies and citizens was needed and that forming an SIEC would generate more involvement and representation of citizens.

In response to audience questions, Mr. Robinson further discussed standardization and reasons why systems should not be built on old systems that have proprietary technologies. Mr. Robinson stated that infrastructure costs were unavoidable and sharing systems could be an option to reduce such costs. Ms. Valicenti also responded by explaining, "We have more than 4 million people in the commonwealth, 1.4 million of which have cellular telephones. In addition, 35 percent of 911 calls are from wireless telephones. Citizens expect that their calls will go through." This statement further supported Mr. Robinson's discussion of avoiding the use of proprietary technologies and thinking about current technologies. In addition, an attendee voiced his opinion that "If you build infrastructure at the national level, then at the state level, it trickles down. Vendors shouldn't be driving, we should be telling them."

Additionally, a frequency question was posed to Major Miller about where Kentucky stood with regard to the 700 MHz frequency band. Major Miller replied that an application had been submitted and they were waiting for a response from the Federal Communications Commission. He further explained that network television companies were not vacating their frequency allocations quickly.

Elected and Appointed Officials' Perspectives on Communications Interoperability

Ms. Valicenti moderated a panel discussion on communications interoperability challenges from elected and appointed officials' perspectives. The panel consisted of Representative Robert "Buddy" Buckingham, Kentucky Legislature; Representative Mike Weaver, Kentucky Legislature; and Mayor Karen Cunningham, City of Madisonville. The panel

members presented various examples of interoperability challenges, which were followed by an interactive discussion with audience participation.

Representative Buckingham kicked off the panel discussion by stating that the conference was the beginning of a solution to Kentucky's interoperability challenges. He stressed that it was time to find and develop partnerships with the Federal Government, state, private sector, and local organizations to fund an interoperable wireless system. He also stated that Section 305 of the Homeland Security bill discussed allocating funds up to $5 million for the establishment of centers for homeland security. He suggested that the Commonwealth of Kentucky should try to pursue that opportunity.

Next, Mayor Cunningham discussed the importance of "selling" the idea of a wireless interoperable system to the citizens of Kentucky. She challenged the conference attendees to look at any opportunities for groups to work together toward a collaborative effort to improve interoperability in Kentucky. She ended by saying, "Think about the cooperative efforts in your community and use those as building blocks for the wireless communications effort."

Finally, Representative Weaver described his concern regarding homeland security and the need to take aggressive action to improve public safety response and prevent terrorism. He said, "Successful homeland security means that we are capable of preventing as many incidents as possible and for those that can't be prevented, provide response information based on near or real time. This is critical to identify potential terrorists…communicating to those that need to know or need to act. Information, identification, communication." Representative Weaver described that he was taking proactive steps to change policy by making stricter laws for obtaining driver's licenses in the Commonwealth of Kentucky.

Ms. Valicenti then opened the floor to questions and comments from the audience. Mr. Joe Sifer, contractor support for the PSWN Program, asked how to effectively elevate public safety issues higher within the legislative committee. Both Representative Buckingham and Representative Weaver answered by explaining that it was necessary to involve the General Assembly and communicate to legislators the concerns about homeland security. Representative Buckingham added that agencies needed to talk locally about the issues and the concerns about an interoperable wireless system and then build the case for a system from the ground up.

Ms. Valicenti posed a question to Mayor Cunningham about how to involve local citizens. Mayor Cunningham explained that marketing material was needed that appealed to local agencies, such as a piece that would steer discussions toward the effects of an interoperable system on cellular telephones. In addition, she said it was important to have citizens ask the question, "How will this system help the agencies in my community and how is it going to interrelate with others?"

Another question was asked about the role of the legislative committee if the issue of funding was ignored. Representative Buckingham answered by stating that policy issues needed to be addressed and obtaining funds continued to be an issue. Representative Weaver added that legislation is being proposed to include a driver's license fee increase from $8 to $12. The money raised would go to the transportation cabinet. Representative Weaver ended the

discussion by saying, "If you think this a good idea and enhances homeland security and public safety agencies, then you have to speak up and say so."

Successful Models

The Tennessee Department of Safety and the Kentucky Division of Emergency Management presented success stories to conference attendees.

Tennessee Statewide Interoperability Communications Strategy

Mr. Bill Pogue, Chief of Technology Services, Tennessee Department of Safety, discussed the Tennessee pilot projects. He explained that the State of Tennessee had developed a plan to migrate from an old, analog radio communications system to an ultra high-speed, digital radio communications system. Mr. Pogue outlined the steps the State of Tennessee took to complete its system—building a plan, getting started, determining who should be involved, building for the future, and putting the plan into action.

To build the plan, Tennessee determined needed assets, identified and learned from national best practices, and requested PSWN Program support. Tennessee participants then defined an affordable solution that used their existing resources and system. To get started, Tennessee assessed the products that various vendors offered and determined standards to create unified systems. Tennessee worked to get strong representation for a steering committee and working groups. In order to build for the future, Tennessee began with a proof-of-concept pilot project centered in Nashville, which is divided into eight districts. Planners asked the legislative committee to become involved and again looked at other states as models. As part of the pilot project, it was determined that 18,000 Tennessee law enforcement officers needed software for their vehicles. Tennessee asked for and received shareware software from the State of Iowa because it could be customized to meet the commonwealth's needs.

Mr. Pogue ended his presentation by urging everyone to get involved and use the "lessons learned" from other states. He then opened up the session for discussion from the audience. A question was asked about where to get further information about the shareware. Mr. Pogue said that the information was available on the Iowa state Web site, on the Department of Transportation page at www.dot.state.ia.us/natmodel/index.htm. Another question was asked about the need for towers and partnering with wireless companies. Mr. Pogue responded by saying that Tennessee did not partner with wireless companies; however, as project implementation moved toward the mountainous region, the state might partner with the Tennessee Valley Authority, which owned fiber optics infrastructure.

The last question concerned mobile computers in police cars. An attendee stated that in California it took 8 minutes versus 20 minutes in other states to conduct a traffic stop and issue a ticket because other states did not have wireless data access in their police cruisers. Mr. Pogue responded by stating that with wireless coverage, it was possible to write a ticket in approximately 6–8 minutes. It was pointed out that the Tennessee legislative committee could use this type of information to support the increase in drivers' license fees.

Emergency Management in the Commonwealth of Kentucky

Mr. Larry Burnette, Assistant Director, Kentucky Division of Emergency Management (KyEM), was scheduled to speak at the conference; however, Mr. Bob Stephens, Department of Military Affairs, KyEM, represented him. Mr. Stephens discussed the radio system used by KyEM. Mr. Stephens indicated that the legislative branch had provided $1.2 million in funds to replace low-band remote stations. He stated that KyEM was able to obtain, and was on the verge of implementing, 12 paired frequencies in the 139 MHz band. KyEM had also purchased 20 Motorola Quantar repeaters. In addition, Mr. Stephens mentioned the Kentucky State Police used the same microwave backbone as the Kentucky Emergency Warning System.

Mr. Stephens discussed the Department of Justice, Office for Domestic Preparedness grants to his agency. He stated that some of these funds were being redirected to local agencies in Kentucky and additional funds from the Department of Justice would not be available unless the agencies had already made the appropriate arrangements. Mr. Stephens wrapped up his presentation by providing the Web site for his organization, http://kyem.dma.state.ky.us.

Interoperability as a Mission-Critical Function

Mr. Rick Murphy, PSWN Program Manager, Department of the Treasury, acted as the moderator and facilitated the discussion on interoperability challenges for mission-critical events. The panelists included Chief William Jefferies, Hopkinsville Fire Department; Chief Allen Love, Versailles Police Department; Mr. Richard Bartlett, Director, Louisville 911; and Ms. Louise Caldwell-Grant, Chemical Stockpile Emergency Management Preparedness Program (CSEEP) Coordinator, Fayette County.

Chief Jefferies discussed the necessity of understanding the concept of interoperability. He stated that legislative involvement improved interoperability and made the state stronger. Chief Love indicated that a significant problem in the past couple of years for his mobile data system was that the vendors of the products typically did not want to work with other vendors. As a consequence of these vendor issues, the initial investment could be much higher than necessary and the implementation process more problematic.

Mr. Bartlett discussed his experiences with implementing a 911 system. He said he first researched lessons learned from other areas such as Rockville and Tulsa. The Louisville 911 center considered forward compatibility paramount so that all mergers would be on the same platform. He said that currently, mobile data capabilities were being implemented using Radio Data-Link Access Procedure (RD-LAP) and cellular digital packet data (CDPD) service. Louisville 911 was in the process of linking the CDPD and RD-LAP systems together so that messaging could occur between them. Mr. Bartlett wrapped up his discussion by stating that his organization recognized that the next challenges to confront and solve would be interoperability related.

Mr. Murphy then opened the discussion for audience participation. A question was asked about the importance of backup and redundancy, to which Chief Love responded that redundant lines and redundant feeds were necessary to back up any system. A question was then asked of Chief Jefferies about twice-protected space. Chief Jefferies explained that in situations where

protection already existed, the first person on the scene would set up the incident command and the second-in-command would assist. Chief Love was asked whether the Hopkinsville Fire Department had an emergency operations center (EOC). Chief Love responded that his fire department did have an EOC.

The topic of funding was raised during the panel discussion. Mr. Bartlett told the audience to beware of unfunded mandates. He also indicated that there needed to be system standardization. He pointed out that if, in the future, a change to an interoperable system standardization was necessary, then potentially, changes would have to be made to multiple other systems—the costs for such changes would be huge, in particular because the systems were not based on compatible standards.

Where Do We Go From Here?

Ms. Valicenti wrapped up the conference by discussing the need to leverage existing organizational resources, improve standardization, and manage procurement processes. In an effort to motivate the audience to improve interoperability, she encouraged all participants to disseminate information to others, as well as get involved. As shown in the Table 1, Ms. Valicenti stated that a three-phase approach should be adopted in order for the Commonwealth of Kentucky to improve interoperability.

Table 1
Three-Phase Approach to Improve Interoperability

Phase	Action Items
Planning	Determine how to expand while still maintaining standardization of systems
Funding	Examine current expenditures and identify ways to refocus a particular source so that it could be used toward interoperability funding
Operations and Support	Use information presented from the pilot projects as examples

Ms. Valicenti concluded her presentation by indicating her appreciation for the support of the PSWN Program and speakers for sharing and educating conference attendees on interoperability issues. She ended by stating that the Commonwealth of Kentucky could deploy applications throughout the state because the infrastructure was already there; the commonwealth just needed to work in partnership with other agencies and the private sector. She said, "This is a partnership at various levels and a partnership with the vendors. We cannot sustain continuous investment, but the vendors can. Help us; don't divide and conquer; engage us so you can help us. We will be your customers." Ms. Valicenti closed by thanking everyone for attending the conference and giving credit to Mr. Lee and Mr. Murphy for cohosting the event.